

WHAT IS CLAIMED IS:

1. A motor drive control apparatus comprising a voltage detecting section for detecting phase voltage or line voltage of a brushless DC motor having three or more phases, a current detecting section for detecting motor current, a back-EMF detecting section for each phase for calculating a back-EMF of each phase of the motor from the phase voltage or line voltage, the motor current, the winding resistance value and winding inductance value, an angular speed calculating section which detects a back-EMF which becomes a maximum value in the back-EMF of each phase, and which calculates angular speed ω of a rotor of the motor, and a rotor position estimating section for estimating electrical angle θ of the rotor from the angular speed ω .

2. A motor drive control apparatus according to claim 1, wherein the rotor position estimating section includes a rotor position detecting section for detecting electrical angles θ_0 of the rotor of the motor in a discrete manner, and the calculated electrical angle θ is corrected by the detected electrical angles θ_0 .

3. A motor drive control apparatus according to claim 1 or 2, wherein the rotor position estimating section calculates a resistance change amount ΔR caused by temperature change of the winding resistance based on an error $\Delta\theta$ between the calculated

electrical angle θ and the detected electrical angles θ_0 .

4. A motor drive control apparatus according to claim 3, wherein the rotor position estimating section calculates a temperature change amount ΔT of the winding based on the resistance change amount ΔR .

5. A motor drive control apparatus according to claim 3 or 4, wherein the rotor position estimating section corrects the calculated electrical angle θ of the rotor using the temperature change amount ΔT or the resistance change amount ΔR .

6. A motor drive control apparatus according to claim 1, further including a low pass filter which is disposed in an input or an output of the current detecting section.

7. An electric power steering apparatus using the motor drive control apparatus according to any one of claims 1 to 6.